

ABSTRACT

Systems and methods for implementing per-session load balancing of packets that increase traffic sharing and reduce systematic unequal distribution of traffic are provided by virtue of one embodiment of the present invention. A method for operating a selected router is provided that uses a load balancing algorithm that is configured to de-correlate distribution of sessions among the active paths at the selected router relative to distributions of sessions of other algorithms at other routers of said network. Packets arriving at the selected router are assigned to an output path according to the load balancing algorithm. A method of routing a packet received at a router having an associated identifier is provided. The source address and a destination address of the packet are obtained. An output path is selected according to a load balancing algorithm that uses the associated identifier, the source address, and the destination address as inputs, and the packet is routed to the output interface associated with the selected output path. A look-up table that is configured using the identifier can be used in selecting the output path. A router storing an identifier assigned to the router is provided; the identifier is used in determining per-session routing of incoming packets.